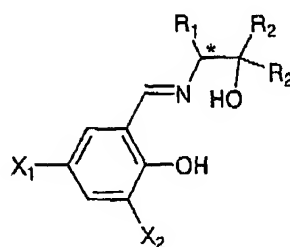


What is claimed is:

1. An optically active salicylideneaminoalcohol compound of formula (1):



5

wherein  $R_1$  represents

an alkyl group which may be substituted with a group selected from an alkoxy group, an aralkyloxy group, an aryloxy group and cycloalkoxy group,

10

an aralkyl, aryl or cycloalkyl group all of which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy group and a cycloalkoxy group,

$R_2$  represents

an alkyl group, a cycloalkyl group, or

15

an aralkyl or phenyl group which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy group and a cycloalkoxy group,

when  $X_1$  represents a nitro group,  $X_2$  is a hydrogen atom,

when  $X_1$  represents a chlorine atom,  $X_2$  is a chlorine atom, and

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when  $X_1$  is a hydrogen atom,  $X_2$  is a fluorine atom; and

the carbon atom denoted by " \* " is an asymmetric carbon atom having either an S or R configuration.

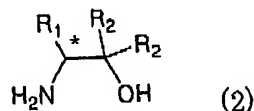
2. An optically active salicylideneaminoalcohol compound according to claim 1, wherein  $R_1$  and  $R_2$  are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group or a 2-octyloxy-5-tert-butylphenyl group.

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3. A process for producing an optically active salicylideneaminoalcohol compound as defined in claim 1, which comprises

reacting

an optically active amino alcohol of formula (2):



5 wherein R<sub>1</sub> represents

an alkyl group which may be substituted with a group selected from an alkoxy group, an aralkyloxy group, an aryloxy group and cycloalkoxy group,

10 an aralkyl, aryl or cycloalkyl group all of which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy group, and a cycloalkoxy group,

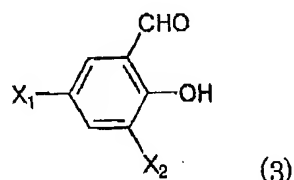
R<sub>2</sub> represents

a hydrogen atom, an alkyl group, a cycloalkyl group or

15 an aralkyl or phenyl group which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy group and a cycloalkoxy group, and

the carbon atom denoted by " \* " is an asymmetric carbon atom having either an S or R configuration, with a 2-hydroxybenzaldehyde derivative of formula (3):

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wherein when X<sub>1</sub> represents a nitro, X<sub>2</sub> is a hydrogen atom,

when X<sub>1</sub> represents a chlorine atom, X<sub>2</sub> is a chlorine atom, and

when X<sub>1</sub> is a hydrogen atom, X<sub>2</sub> is a fluorine atom.

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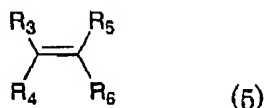
4. A process according to claim 3, wherein R<sub>1</sub> and R<sub>2</sub> are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group or a 2-octyloxy-5-tert-butylphenyl group.

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5. A chiral copper complex obtained by contacting a mono-valent or

divalent copper compound with an optically active salicylideneaminoalcohol compound as defined in claim 1 or 2.

6. An adduct comprising a chiral copper complex as defined in claim 5  
5 and a prochiral olefin of formula (5):



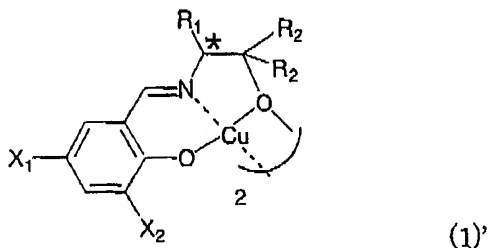
wherein R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> independently represent

- 10 a hydrogen atom,  
a halogen atom,  
a (C1-C8)alkyl group which may be substituted with a halogen atom  
or a lower alkoxy group,  
a (C4-C8)cycloalkyl group,  
15 an aryl group which may be substituted with a halogen atom or a  
lower alkoxy group,  
an alkoxy group,

R<sub>3</sub> and R<sub>4</sub>, or R<sub>5</sub> and R<sub>6</sub> may be bonded at their terminals to form an  
alkylene group having 2-4 carbon atoms, and

- 20 one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> groups represents an alkenyl group which  
may be substituted with a halogen atom, an alkoxy group or an alkoxy  
carbonyl group, of which alkoxy may be substituted with a halogen  
atom or atoms,  
provided that when R<sub>3</sub> and R<sub>5</sub> are the same, R<sub>4</sub> and R<sub>6</sub> are not the  
25 same.

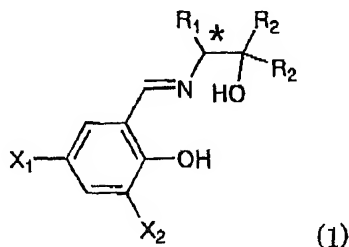
7. A method for producing a chiral copper complex of formula (1)':



wherein  $R_1$  and  $R_2$  are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group, or a 2-octyloxy-5-tert-butylphenyl group,

5 when  $X_1$  represents a nitro group,  $X_2$  is a hydrogen atom,  
when  $X_1$  represents a chlorine atom,  $X_2$  is a chlorine atom, and  
when  $X_1$  represents a hydrogen atom,  $X_2$  is a fluorine atom,  
the carbon atom denoted by " \* " is an asymmetric carbon atom  
having either an S or R configuration,

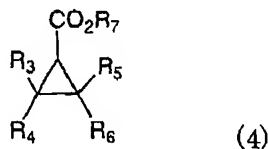
10 which comprises contacting a di-valent copper compound, in an inert organic solvent, with a chiral salicylideneaminoalcohol compound of formula (1):



15 wherein  $R_1$ ,  $R_2$ ,  $X_1$ ,  $X_2$  and " \* " respectively have the same meaning as defined above.

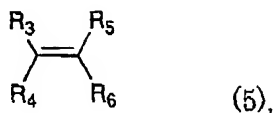
8. A method according to claim 7, which further comprises  
subjecting the resulting solution to precipitation and collecting the  
20 precipitated crystals of said chiral copper complex of formula (1)'.  
9. A method according to claim 8, said precipitation is carried out by  
cooling the reaction solution or by adding an aliphatic hydrocarbon solvent.

25 10. A method for producing an optically active cyclopropanecarboxylic acid ester of formula (4):

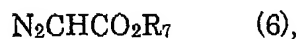


wherein  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$  and  $R_7$  are as defined below,

which comprises reacting a prochiral olefin of formula (5):



5        wherein  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  are as defined below, with a diazoacetic acid ester of formula (6):



10        wherein  $R_7$  is as defined below, in the presence of a chiral copper complex as defined in claim 5,

wherein  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  independently represent

a hydrogen atom,

a halogen atom,

15        a (C1-C8)alkyl group which may be substituted with a halogen atom or a lower alkoxy group,

a (C4-C8)cycloalkyl group,

an aryl group which may be substituted with a halogen atom or a lower alkoxy group,

20        an alkoxy group,

$R_3$  and  $R_4$ , or  $R_5$  and  $R_6$  may be bonded at their terminals to form an alkylene group having 2-4 carbon atoms, and

one of  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  groups represents an alkenyl group which may be substituted with a halogen atom, an alkoxy group or an alkoxy

25        carbonyl group, of which alkoxy may be substituted with a halogen atom or atoms,

provided that when  $R_3$  and  $R_5$  are the same,  $R_4$  and  $R_6$  are not the same, and  $R_7$  represents

an alkyl group having 1 to 8 carbon atoms,

30        a benzyl group which may be optionally substituted with a cycloalkyl group, a lower alkyl group, a lower alkoxy group, a phenoxy group or a halogen atom, or

a phenyl group which may be optionally substituted with a lower alkyl group, a lower alkoxy group or a phenoxy group.

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11. A method according to claim 10, wherein  
R<sub>7</sub> represents an alkyl group having 1 to 6 carbon atoms or  
an optionally substituted phenyl group.